

IN THE CLAIMS

1. (Currently amended) An acryl-silicone hybrid impact modifier having improved impact resistance and coloring property comprising:

(A) an acryl seed latex,

(B) a core comprising

(i) 55.0 to 97.5 parts by weight of a continuous acryl rubber core placed on the acryl seed latex of (A)

(ii) 2.5 to 45.0 parts by weight of a discrete silicone rubber core placed into and onto the continuous acryl rubber core (i); and

(C) a graft shell placed on the continuous acryl rubber core of (B)(i) having the discrete silicone rubber core of (B)(ii) therein, and the discrete silicone rubber core of (B)(ii) placed onto the continuous acryl rubber core of (B)(i);

wherein the continuous acryl rubber core of B(i) is prepared by emulsion polymerization reaction between 0.01 to 10 parts by weight of the acryl seed latex of (A) ~~based on total weight of the impact modifier~~, 57.07 to 79.40 parts by weight of an alkyl acrylate having an alkyl group of 1 to 8 carbon atoms, and 0.43 to 0.60 parts by weight of a cross-linking monomer, based on the weight of the entire impact modifier,

wherein the discrete silicone rubber core of (B)(ii) is prepared by swelling a cyclic organosiloxane precursor of:

0.98 to 24.50 parts by weight of a 3 to 7 member cyclic organosiloxane,

0.15 to 0.38 parts by weight of an organosiloxane cross-linking agent having an alkyl group of 3 or more carbon atoms, and

0.05 to 0.45 parts by weight of an organosiloxane graft-linking agent, based on the weight of the entire impact modifier,

in the acryl rubber core, then condensing the swells with an acid catalyst selected from the group consisting of alkylbenzene sulfonic acid and alkylsulfonic acid,

wherein the glass transition temperature of the core is -120°C to 25°C, and

wherein the graft shell of (C) is prepared by emulsion graft polymerization reaction of 60 to 94 parts by weight of the core (B) ~~of total weight of the impact modifier~~, 7.5 to 20 parts by weight of an alkyl methacrylate having an alkyl group of 1 to 4 carbon atoms, and 0.1 to 20 parts by weight of one or more compounds selected from the group consisting of methylacrylate,

ethylacrylate, butylacrylate, acrylonitrile, and methacrylonitrile, based on the weight of the entire impact modifier.

2. (Canceled)

3. (Previously presented) The impact modifier having improved impact resistance and coloring property according to Claim 1, wherein said acryl seed latex comprises a vinyl monomer of one or more compounds selected from the group consisting of styrene, α -methylstyrene, vinyl toluene, and 3,4-dichlorostyrene.

4. (Previously presented) The impact modifier having improved impact resistance and coloring property according to Claim 1, wherein said acryl seed latex comprises a hydrophilic monomer of one or more compounds selected from the group consisting of ethylacrylate, butylacrylate, and 2-ethylhexylacrylate, methylmethacrylate, benzylmethacrylate, acrylonitrile, hydroxymethylmethacrylate, and glycidylmethacrylate; and a cross linking monomer of one or more compounds selected from the group consisting of divinylbenzene, 3-butanediol diacrylate, 1,3-butanediol dimethacrylate, 1,4-butanediol diacrylate, 1,4-butanediol dimethacrylate, allylacrylate, arylmethacrylate, trimethylolpropane triacrylate, tetraethyleneglycol diacrylate, and tetraethyleneglycol dimethacrylate.

5. and 6. (Canceled)

7. (Previously presented) The acryl-silicone hybrid impact modifier having improved impact resistance and coloring property according to Claim 1, wherein said alkyl acrylate having an alkyl group of 1 to 8 carbon atoms is one or more compounds selected from the group consisting of methylacrylate, ethylacrylate, propylacrylate, iso-propylacrylate, butylacrylate, hexylacrylate, octylacrylate, and 2-ethylhexylacrylate.

8. to 10. (Canceled)

11. (Previously presented) The impact modifier having improved impact resistance and coloring property according to Claim 1, wherein said cross-linking monomer is one or more

compounds selected from the group consisting of divinylbenzene, 3-butanediol diacrylate, 1,3-butanediol dimethacrylate, 1,4-butanediol diacrylate, 1,4-butanediol dimethacrylate, allylacrylate, arylmethacrylate, trimethylolpropane triacrylate, tetraethyleneglycol diacrylate, and tetraethyleneglycol dimethacrylate.

12. to 19. (Canceled)

20. (Previously presented) A vinyl chloride resin composition having improved impact resistance and coloring property comprising 80 to 99 parts by weight of a vinyl chloride resin, and 1 to 20 parts by weight of said impact modifier of Claim 1.

21. and 22. (Canceled)

23. (Previously presented) The impact modifier having improved impact resistance and coloring property according to Claim 1, wherein said 3 to 7 member cyclic organosiloxane is one or more selected from octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, and tetramethyltetraphenylcyclotetrasiloxane; the organosiloxane cross-linking agent is one or more selected from group consisting of tetramethoxysilane, tetraethoxysilane, and triethoxymethylsilane; and the organosiloxane graft-linking agent is one or more selected from group consisting of gamma-methacryloxypropyltrimethoxysilane, mercaptopropyltrimethoxymethylsilane, mercaptopropyltrimethoxysilane, and tetravinyltetramethylcyclotetrasiloxane.